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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/671,409	09/27/2000	Markus Loose	00SC053US3	6802

7590 07/19/2002  
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Suite 107  
555 St Charles Drive  
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EXAMINER

KAO, CHIH CHENG G

ART UNIT	PAPER NUMBER
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2882

DATE MAILED: 07/19/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/671,409

Applicant(s)

LOOSE, MARKUS

Examiner

Chih-Cheng Glen Kao

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on 22 April 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☐ Claim(s) 1-3, 5, 8, 9 and 12-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-3 and 5 is/are allowed.
- 6) ☒ Claim(s) 8 and 12-14 is/are rejected.
- 7) ☒ Claim(s) 9 and 15 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☒ The proposed drawing correction filed on 22 April 2002 is: a) ☒ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 7.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 8 and 12-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi (US Patent 5955753).
2. Regarding claims 8 and 12, Takahashi discloses a CMOS sensor (col. 2, lines 36-37) array comprising a plurality of photodetectors (Fig. 8), which may be called subpixels, and a switching circuit for combining the photodetectors (col. 2, lines 57-62) for different resolutions (col. 2, lines 61-62, and col. 6, lines 8-13) at an intrinsic capacitance (Fig. 2, "n<sup>+</sup>"), with an addressing circuit where the combined output can be read out in response to an address input (col. 8, lines 61-65). However, Takahashi does not specifically disclose "photodetector array".

It would have been obvious, to one having ordinary skill in the art at the time the invention was made, to have a photodetector array as the CMOS sensor of Takahashi, since the CMOS sensor is conventionally considered functionally equivalent to a photodetector array as implied from Takahashi (col. 2, lines 45-48). It would have been within routine skill in the art to substitute the CMOS sensor for a photodetector array.

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3. Regarding claims 13 and 14, Takahashi suggests a device as recited above. However, Takahashi does not seem to specifically disclose an array switchable between 1920, 1080, and 720 rows.

It would have been obvious, to one having ordinary skill in the art at the time the invention was made, to have an array switchable between 1920, 1080, and 720 rows with the suggested device of Takahashi, since it would have just been a matter of engineering expediency to choose a resolution that was considered high and a resolution that was considered low. Secondly, discovering the optimum or workable range for resolution involves only routine skill in the art as shown by Takahashi (col. 3, lines 50-55). One would be motivated to have a resolution as high as 1920 rows for greater detail in the image, while one would be motivated to have a resolution as low as 720 rows for faster processing.

***Allowable Subject Matter***

4. Claims 1-3 and 5 are allowed.

5. Claims 9 and 15 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

6. The following is a statement of reasons for the indication of allowable subject matter:

Regarding claim 1, prior art does not specifically disclose or fairly suggest a photodetector array with each pixel comprising at least two photodiodes and a switching circuit to a second circuit to combine photodiodes of neighboring pixels in parallel wherein the output is

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stored in an intrinsic capacitance prior to being read out in combination with all the limitations in the claim.

Regarding claim 9, prior art does not specifically disclose or fairly suggest a photodetector array with a switching circuit between a configuration with two combined photodiodes and a second configuration is the sum of least three photodiodes in combination with all the limitations in the claim and base claim.

Regarding claim 15, prior art does not specifically disclose or fairly suggest a photodetector array with switching between two adjacent subpixels and another grouping arrangement combining three adjacent subpixels in said given vertical column in combination with all the limitations in the claim and base claim.

### ***Response to Arguments***

7. Applicant's arguments with respect to claims 8 and 12-14 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after

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the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chih-Cheng Glen Kao whose telephone number is (703) 605-5298. The examiner can normally be reached on M - Th (8 am to 5 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Kim can be reached on (703) 305-3492. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7724 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.



gk  
July 14, 2002



ROBERT H. KIM  
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